the filter results include all records for which any of the several fields matches the lookup string. Particular fields may be designated as searchable, so that the lookup string is applied to those fields but not other fields. Field combinations and/or derived fields may also be designated, such as for example: first initial plus last name (a derived field), or first name plus last name (a field combination). Derived fields are fields that can be generated by performing an operation on one or more other fields. Combination fields are fields that can be generated by combining two or more other fields. Derived fields and combination fields need not be stored in directory 403, but may be generated "on the fly" as needed. One skilled in the art will recognize that the invention may perform searches on any combination of stored fields, derived fields, combination fields, and the like.

[0131]   In one embodiment, the invention filters the lookup string against the following fields:

[0132]   - first name (for example, lookup string "GR" would match "Greg Shirai");

[0133]   - last name (for example, lookup string "GR" would also match "Bob Green");

[0134]   - derived field: first initial and last initial (for example, lookup string "GR" would also match "Gus Rollins");

[0135]   - derived field: first initial and last name (for example, lookup string "GRA" would match "Gary Randolph");

[0136]   - field combination: first name and last name if a space is entered between them (for example, lookup string "GR RA", which includes a space after the second character, would match "Greg Ralston"); and

[0137]   - company name.

[0138]   One skilled in the art will recognize that other fields, field combinations, or derived fields could also be used.

[0139]   In addition, as discussed above, characters within the lookup string may match similar or related values in directory record fields. Thus, for example, lookup string "RBE" would match "Robert B ê te", since the "E" matches the "ê".

[0140]   In one embodiment, spaces (or other punctuation) within a name are ignored, for pattern matching purposes. Thus, "TVONBR" would match "Tom von Bridgwater", where "von" is part of the last name and not a middle name. Similarly, "ELM" would match "Jane El-Makim", since the hyphen would be ignored. "EL-M" would also match "Jane El-Makim", should the user elect to include the hyphen in the lookup string.

[0141]   As described above, if the user backspaces so as to delete the last character, the filter results revert to those shown before the last character was entered.

[0142]   In one embodiment of the invention, multiple-field filtering is provided without automatically determining whether the user intends a directory filter or direct-dial operation. In another embodiment, multiple-field filtering is

combined with automatic determination as to whether the user intends a directory filter or direct-dial operation.

Examples of User Interface

[0143]   Referring now to Figs. 8A through 8E, there are shown screen shots depicting an example of a directory filtering operation according to one embodiment of the present invention where a directory filtering operation is initially assumed. The screen shots of Figs. 8A through 8E correspond to the method described above in connection with Fig. 3A. In the example shown, the user is attempting to look up John Birch's number in the directory in order to call him on his work telephone number.

[0144]   Referring now to Fig. 8A, initial contact screen 800 is shown. Screen 800 may be activated, for example, by simply turning on device 100, or by entering a mode for directory lookup, or by activating a phone application. Screen 800 includes a number of contact records 601, scroll arrows 502 and 503 for navigating to additional records, and on-screen controls 602 for activating other functions of device 100.

[0145]   In one embodiment, screen 800 may be skipped entirely, so that the invention proceeds directly to screen 810, depicted in Fig. 8B, in response to the user entering a keystroke.

[0146]   Since the user is attempting to look up "Birch, John", he or she first presses the "B" key. At this point, screen 810 is displayed, as depicted in Fig. 8B.